

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1. (Currently Amended) A surveying instrument comprising:

a surveying instrument body rotatable about each of a vertical axis and a horizontal axis; and

a first collimator optical system and a second collimator optical system each of which is positioned in said surveying instrument body to collimate said surveying instrument relative to a survey point, a viewing angle of said second collimator optical system being smaller than a viewing angle of said first collimator optical system,

wherein a first collimating operation is performed with said first collimator optical system ~~after~~ before a second collimating operation is performed with said second collimator optical system, and each of said first and second collimator optical system comprise a separate light source for projecting light rays toward said survey point to collimate said surveying instrument relative to said survey point.

2. (Currently Amended) A surveying instrument comprising:

a surveying instrument body rotatable about each of a vertical axis and a horizontal axis; and

a collimator optical system which is positioned in said surveying instrument body to

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collimate said surveying instrument relative to a survey point,

wherein said collimator optical system comprises a zoom mechanism for varying a focal length of said collimator optical system between that of a wide-angle view and that of a telephoto view.

3. (Currently Amended) A surveying instrument comprising:

a surveying instrument body rotatable about each of a vertical axis and a horizontal axis;

a telescope optical system positioned in said surveying instrument body; and

a collimator optical system positioned in said surveying instrument body, a viewing angle of said collimator optical system being greater than a viewing angle of said telescope optical system,

wherein said surveying instrument body is driven to rotate about each of said vertical axis and said horizontal axis to position an image of a target at a survey point within a field-of-view of said telescope optical system in accordance with positional information on said survey point which is obtained through said collimator optical system, and each of said collimator optical system and said telescope optical system comprises a separate light source for projecting light rays toward said survey point to collimate said surveying instrument relative to said survey point.

4. (Original) The surveying instrument according to claim 1, further comprising an image sensor,

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wherein said second collimator optical system is capable of forming an image on said image sensor.

5. (Original) The surveying instrument according to claim 4, further comprising an auto-collimating system which drives said surveying instrument body to rotate about each of said vertical axis and said horizontal axis to position an image of a target at said survey point within a field-of-view of said first collimator optical system.

6. (Original) The surveying instrument according to claim 5, wherein said first collimator optical system and said second collimator optical system share the use of said image sensor.

7. (Original) The surveying instrument according to claim 1, wherein said first collimator optical system comprises an all-directional mirror.

8. (Canceled)

9. (Original) The surveying instrument according to claim 3, further comprising:  
an image sensor; and

an auto-collimating system which drives said surveying instrument body to position said image of said target at said survey point within a field-of-view of said telescope optical system in accordance with positional information on said survey point which is obtained through said collimator optical system.

10. (Original) The surveying instrument according to claim 9, wherein said collimator optical system is positioned to be capable of forming said image of said target on said image sensor.

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11. (New) A surveying instrument comprising:

a surveying instrument body rotatable about each of a vertical axis and a horizontal axis;

a first automatic collimator optical system and a second automatic collimator optical system each of which is positioned in said surveying instrument body to collimate said surveying instrument relative to a survey point, a viewing angle of said second collimator optical system being smaller than a viewing angle of said first collimator optical system;

and a target recognition processing circuit for determining whether a survey point is within a field of view of the first collimator optical system,

wherein a first collimating operation is performed with said first collimator optical system before a second collimating operation is performed with said second collimator optical system, and said first collimating operation is automatically performed when said target recognition processing circuit determines that a survey point is within the field of view of the first collimator optical system.

12. (New) The surveying instrument according to claim 11, wherein said surveying instrument body automatically moves if said target recognition processing circuit determines that a survey point is not within the field of view of said first collimator optical system.

13. (New) A surveying instrument comprising:

a surveying instrument body rotatable about each of a vertical axis and a horizontal axis;

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a first collimator optical system comprising a first lens having a first optical axis;

a second collimator optical system comprising a second lens having a second optical axis different than the first optical axis, each of said first and second collimator optical systems being positioned in said surveying instrument body to collimate said surveying instrument relative to a survey point, a viewing angle of said second collimator optical system being smaller than a viewing angle of said first collimator optical system; and

an image sensor which captures images from said first collimator optical system and said second collimator optical system,

wherein a first collimating operation is performed with said first collimator optical system before a second collimating operation is performed with said second collimator optical system.